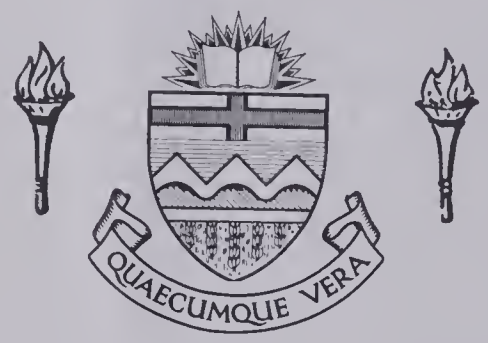

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THE UNIVERSITY OF ALBERTA

"CHANGES IN THE ADJUSTMENT AND SELF-ATTITUDES OF THE MENTALLY RETARDED THROUGH HUMAN RELATIONS TRAINING"

by

© MARY LYNNE (WATSON) GOKIERT

A THESIS

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FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Changes in the Adjustment and Self-Attitudes of the Mentally Retarded Through Human Relations Training" submitted by Mary Lynne (Watson) Gokiert in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

The purpose of this study was an attempt to evaluate the effects of HRT on the personal adjustment, social adjustment, total adjustment and self-attitudes of a group of mentally retarded individuals. Four hypotheses were formulated to determine whether the personal adjustment, social adjustment, total adjustment, or self-attitudes of the mentally retarded would be changed through Human Relations Training as evidenced by scores on the California Test of Personality.

The Ss were 28 mentally retarded individuals receiving training at the Industrial Research and Training Center of Edmonton, Alberta. The Ss had a mean age of 24.86 years and a mean IQ (WAIS full scale) of 54.36.

The Ss were selected and randomly assigned to four groups, two experimental and two control groups. The experimental groups participated in ten Human Relations Training sessions of two hours each for five weeks, while the control groups received no treatment. Personal Adjustment, Social Adjustment, Total Adjustment, and Self-Attitude scores on the California Test of Personality (Elementary Form) were obtained for all groups before and after the five week program.

The results did not support the hypothesis and the direction of change for the experimental group, although not statistically significant, was in the opposite direction to that expected.

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CHAPTER I

INTRODUCTION

Statement and Importance of the Problem

The purpose of this research was an attempt to obtain experimental evidence to support the hypothesis that mentally retarded individuals participating in a human relations training group would show more significant changes in personal adjustment, social adjustment, total adjustment, and self-attitudes than mentally retarded individuals not exposed to the same experimental treatment.

Two of the areas in which mentally retarded individuals experience difficulty are: firstly, in their interactions with one another, particularly when working in groups to perform a task requiring team work; and secondly, in their attitudes toward themselves as indicated by feelings of inadequacy, fear of failure, feelings of rejection, and feelings of inferiority. These poor self-attitudes influence the way in which they relate to others and perform tasks assigned to them. These observations prompted the investigator to initiate a study designed to bring about changes in personal and social adjustment, as well as changes in self-attitudes. Participation in a human relations training group was the method chosen to effect the desired change.

Human Relations Training had its beginning in a

training laboratory at Bethel, Maine, during the summer of 1947. This laboratory was designed to try out new methods for re-educating human behavior and social relationships. Since that time all of the following have been shown to be influenced by laboratory training: various perceptions of the self, affective behavior, congruity between self-percept and ideal self, self-insight, sensitivity to the feelings or behaviour of others, role flexibility, sensitivity to group decisions, diagnostic ability, behavioral skill, and self-confidence (Stock, 1964, p. 434). This is only a partial list.

An important goal of many groups is the induction of changes in the people participating in the group experience. These changes may be of many types, including a wide variety of perceptual and attitudinal changes in the group members, the acquisition of new cognitive skills and information, and the modification of overt behavioral responses, both in the group and, ultimately, in other social interaction settings in which the individual participates. "Changes such as these are the raison d'etre of both human relations training groups and psycho-analytic therapy groups, which seek to improve the individual's interpersonal responses by helping him toward better adjustment (Burke & Bennis, 1961, p. 165)."

Although there is no reported research on the use of human relations training with mentally retarded individuals, the research using group psychotherapy is positive and

indicates advantages in the group approach. Several investigators, in discussing the use of human relations training have indicated that training groups and therapy groups resemble one another in many important ways. Members of both kinds of groups indulge in personal revelations, share perceptions, and attempt to analyze and interpret individual and group behavior. The major differences would seem to be of two types: first, patients in therapy groups come for relief of some pathology, while training group members wish to improve upon group performance in concrete social situations which is already in the normal range; second, the manifest context of training group discussions concerns here-and-now behaviour rather than the life-history materials found in most therapy groups (Burke & Bennis, 1961; Bradford et al., 1964; Frank, 1964).

A current and significant trend in psychology and education is to place the emphasis on the personality development and social adjustment of the mentally retarded individual. Educators are becoming more aware that the emotional adjustment and social growth of the retarded individual must be attended to as well as his need to learn academic subjects and to acquire vocational skills.

Studies by Young (1958), Collman and Newlyn (1957), and Coakley (1945) recognized the importance of the personal and social adjustment of mentally retarded individuals to their success on the job. Young (1958),

making use of the interview technique, concluded that personal-social factors were of much greater importance in the later success of the mentally retarded than academic abilities and achievement. Using the same technique, Collman and Newlyn (1957) and Coakley (1945) found that good work habits and personal traits and characteristics are primary determinants of the retardate's success on the job.

As Pilkey, Goldman, and Kleinman (1961) pointed out, part of the problem of emotional adjustment is to relate to people in appropriate ways. The skill of getting along with others effectively is one which may be transferred and is useful in most jobs and other life activities. These skills cannot be taught in the same manner as ordinary school subjects since teaching materials are not available for this purpose, nor is it certain how these skills can be developed.

Reacting appropriately in social situations requires some degree of ability to observe social cues. Since the mentally retarded individual appears to have more difficulty in accurately perceiving social situations than the brighter individual (Pilkey et al., 1961), often the retarded individual fails to distinguish between appropriate and non-appropriate behavior or to identify various social cues. Hutt and Gibby (1958) believed this to be especially true for the retarded individual during adolescence.

Often as the mentally retarded individual grows

older and his life becomes more complicated, his relations with peers become strained, his total adjustment suffers, and he thus presents a problem to school and society. If the basic difficulty of interpersonal relations could be alleviated, these individuals might become happier, more useful, and more productive.

Various methods and techniques have been used in attempting to improve the adjustment and self-attitudes of the retarded including individual and group psychotherapy, play therapy, psychodrama, counselling, occupational therapy, and discussion groups. A study carried out by Wilson, Sakata, and Frumkin (1967) assessed the effects of short-term group interaction sessions on the social adjustment of mentally retarded subjects. It was found that the mean gain in social adjustment on the California Test of Personality was significant for the treatment group and non-significant for the control group. These findings support other work (Astrachan, 1955; Cotzin, 1948; Fisher & Wolfson, 1953; Kaldeck, 1958; Kaufman, 1963; Nichols & Kahn, 1963; Miezio, 1967; Snyder & Sechrest, 1959; Wilcox & Guthrie, 1957); showing that the group approach is effective with mentally retarded subjects.

Definitions

Human Relations Training (HRT) has been variously labled T-Group, Laboratory Group (Bradford et al., 1964), Sensitivity Training, Basic Encounter Group (Rogers, 1967),

Human Potential Movement (Howard, 1968), and Quasi-Group Therapy (Truax, 1967). Essentially, HRT is involvement by members, usually ten to fifteen with one or two trainers, whose aim it is to focus on personal interaction (Rogers, 1961).

It is difficult to describe the experience of laboratory training in general because laboratories vary in goals, training design, delegate population, length, and setting. However, the major training activities of the laboratory include T-Groups (basic unstructured learning groups), information or theory sessions (in which the trainer lectures on or demonstrates some concepts relevant to the laboratory goals), focused exercises (activities involving small or large groups), and other activities (including seminars, dyads, informal sessions). However, the T-Group is, for most delegates, the major emotional focus on the laboratory experience (Schein & Bennis, 1966). Bradford et al. (1964) defined a T-Group as:

> . . . a relatively unstructured group in which individuals participate as learners. . . . The data are the transactions among members, their own behavior in the group, as they struggle to create a productive and viable organization, . . . and as they work to stimulate and support one another's learning within that organization. . . . Each individual may learn from his own motives, feelings, and strategies in dealing with other persons. He learns also of the reactions he produces in others as he interacts with them. From the confrontation of intentions and effects, he locates barriers to full and autonomous functioning in his relation with others. . . . he develops new images of potentiality in himself and seeks help from others in converting potentialities into actualities (p. 1-2).

The formal laboratory situation as described by Bradford et al. (1964) must be modified for groups with limited intellectual, cultural, and educational advantages. For this reason, the term HRT, as used in this study, refers to an educational strategy in which the techniques of laboratory training are used with individuals who are working on a preliminary level of sensitivity and awareness to bring them to the level of those not intellectually, culturally, and educationally disadvantaged. Thus, the basic premise is that the retarded individual is taken at his present state of development and awareness and an attempt is made to increase awareness and facilitate growth. Such an approach is consistent with much of the literature discussing group psychotherapy with the retarded. As Kaldeck (1958) has pointed out, "In our patients it would not be possible to arouse deep intellectual insight, but the group process in itself helps the patient to establish better attitudes in relating to people (p. 188)."

Mental Retardation (mentally retarded-MR). For the purposes of this study mental retardation has been defined by I.Q. ratings on the Wechsler Adult Intelligence Scale and the classification system of the Alberta Guidance Clinic, Province of Alberta which is as follows:

> The degree of intelligence defect will be specified as mild, moderate, or severe, and the current I.Q. rating, with the name of the test used, will be added to the diagnosis. In general, mild refers to functional (vocational) impairment, . . . with I.Q.'s of approximately 70 to 85; moderate is used for functional impairment requiring special training and guidance, . . . with I.Q.'s of about 50 - 70; severe refers to

> the functional impairment requiring custodial or complete protective care, . . . with I.Q.'s below 50 (American Psychiatric Association, 1952, pp. 23-24).

In this study mental retardation referred to the I.Q. range of 41 to 85.

Self-Attitudes refer to attitudes regarding the worth, competence, capability, guilt, adequacy or other evaluation of one's self as a person.

Introduction to the Text

Chapter I briefly discussed the purpose of the present study with a description of HRT. Chapter II is devoted to a review of the literature pertaining to the present study. A description of the research design, instrumentation, administrative producedures, and statistical tests are found in Chapter III. The results obtained from tests of the hypotheses, and some additional findings, are reported in Chapter IV. Chapter V includes a summary of the study, conclusions about the hypotheses, and a discussion of the findings.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Since its beginning in 1947, HRT has been the object of considerable research. The bulk of work has been centered around training with individuals with normal intelligence and there is no reported research discussing the use of HRT with MR individuals. There is, however, growing unanimity in the literature as regards the effectiveness of group psychotherapy with MR individuals. Sufficient similarities exist between group psychotherapy and HRT (Bradford et al., 1964; Burke & Bennis, 1961; Frank, 1964; Lakin & Carson, 1966; Luft, 1963; Truax, 1967;) to suggest that much of the research in group psychotherapy would apply as well to the area of HRT. The similarities between HRT and group psychotherapy which have been noted are: the members of both kinds of groups indulge in personal revelations, share perceptions, and attempt to analyze and interpret individual and group behavior (Burke & Bennis, 1961). The essential differences between HRT groups and psychotherapy groups noted by Bradford et al. (1964) are: the HRT group tends to utilize data about present behavior and its consequences rather than delving into genetic cause; the HRT group tends to deal with conscious and preconscious motivations rather than with unconscious

motivation; and the HRT group makes the assumption that persons participating are well rather than ill.

The following review of related literature primarily focuses upon studies discussing the use of group psychotherapy with the retarded. In addition, a lesser portion of this chapter is devoted to an examination of studies discussing the measurement of adjustment and self-attitudes in the retarded.

Rationale for Group Psychotherapy with the MR

In his review, Gunzburg (1965) pointed out the favorable aspects of group psychotherapy with MR individuals:

> Group therapy has found much favour with the therapist because it is economical of time and energy and concentrates on the weak personal relationships of the defective. Discussion of problems in a group setting makes the individual patient aware that his case is one of many, and helps to break down tendencies of isolation and withdrawal. Working through problems in a group setting makes it possible to reorientate the patient towards his immediate environment, to give opportunities for becoming aware of other people's viewpoints and of feeling instead of only knowing the implications of social approval and disapproval (p. 426).

Group sessions provide an opportunity to relieve situational anxiety caused by partially or totally misunderstood happenings. Questions freely answered by the therapist provide an opportunity for disseminating information thus making it possible to clarify misunderstandings on the spot, to dispel doubts to reassure the insecure, and to suggest solutions to the hesitant (Astrachan, 1955; Kaldeck, 1958; Ringelheim & Polatsek, 1955; Stubblebine & Roadruck,

1956; Wilcox & Guthrie, 1957). Though true insight is perhaps exceptional among these patients, it seems quite possible that through group sessions an understanding of their limitations and position in society may be gained. In group therapy the concrete samples of behavior or personality difficulties given by the MR and seen by them in others may be the source of insight (Cotzin, 1948). The problems and conflicts of the MR are of a very concrete, realistic nature, relating to the present, to the immediate past, and to the immediate future. The assistance of the therapist must, therefore, be given on the same realistic plane on which the problems are experienced (Burton, 1954). The immediate problems encountered most frequently are the patient's position as a certified defective, his future, and his personal relationships. Here the therapist will reassure and encourage, persuade and explain in an effort to overcome feelings of personal inferiority, of rejection, of anxiety, and of insecurity (Gunzburg, 1965).

The difficulties assumed to face the therapist when dealing with MR patients have been summarized by Sarason (1949):

> Such persons have been unable to delay or control emotional expression; to seek or to accept socially appropriate substitute activities in the face of frustrations and restrictions; to view objectively the behavior of others; to adjust or want to adjust to the needs of others; to realize the sources and consequences of their behavior; to verbalize the interpersonal nature of their problems; to seek help or to understand the purpose of the individual offering it (p. 419).

Gunzburg (1965), however, pointed out that many of these opinions derive from prior concepts of mental deficiency. Low intelligence test results alone are not indicative of a patient's inability to respond to therapeutic approaches. Slavson (1950) included MR patients in his group therapy and though they participated only occassionally in group discussions, they proved to be capable of keeping up with the general trend of the talks and seemed to derive considerable benefit from them. The same author (Slavson, 1950) concluded that in order to formulate and verbalize the problems and to have some understanding of interpretation the intelligence level need not be very high. Glassman (1943) and Cooley (1945), comparing the treatment results of MR children with those of bright children, concluded that the results of therapy with those of lower mentality were as favorable, as with bright children. Fisher and Wolfson (1953) demonstrated that changes in the behavior and attitude of the MR could be produced in a group therapy setting. They concluded that their results constituted strong support for the view that mental conflicts in the MR did not differ substantially from those of the normal individual.

Astrachan (1955) and Ringelheim and Polatsek (1955) emphasized the following goals in group psychotherapy with MR patients: the correction and improvement of social and personality defects and the establishment of better interpersonal relationships.

Abel (1953) suggested a program of gradual steps because:

> the goal of treatment should be modest and simpler than the goal one usually but not necessarily, anticipates in working with more intelligent individuals . . . If we set out at first with the purpose of changing total attitudes, and many aspects of behavior, we are likely to be defeated, but this does not mean that as one goal is achieved another one cannot be set and further work done (p. 108).

The general aim expressed by practically all therapists consists of alleviating "emotional and behavioral abnormalities that are inexplicable on the basis of mental retardation alone (Fisher & Wolfson, 1957, p. 186)."

Group Psychotherapy with the MR

Very few studies published to date make use of control groups and objective criteria for the assessment of individuals under treatment. Most experiements have been undertaken in a pioneering clinical spirit with more thought for the patient than for objective criteria for evaluating results. Criteria for improvement, or non-improvement, even when supported at times by hospital records, are not only subjective but may also differ with different investigators.

Mehlman's (1953) carefully designed investigation with children, reported statistically significant increases in adjustment measured by ratings. His main observation was that the MR child, despite his intellectual limitations, can grow in therapy because therapeutic progress does not depend on intellectual ability. O'Connor (1955) reported

significant changes in the attitude of the MR group under therapy accompanied by changes in behavior and performance in a workshop situation. In particular there was an increase in zest coupled with an increase in feasible aspirations. There was a definite change in attitude to authority figures from negative to positive and the progressive release of hostility to be expected in a permissive group atmosphere showed in negative attitudes to group members as well as in increase of the criticism of others (p. 436)."

Snyder and Sechrest (1959), in an experimental study of directive group therapy with MR male delinquents, hypothesized that experimental group members would show significant improvement over members of a placebo and no-treatment group in their institutional adjustment. At the end of 13 weeks of treatment the inmates receiving therapy were superior to both placebo and no-treatment groups in their institutional adjustment as represented by significantly more positive comments on routine housing reports and fewer appearances in behavior courts for more serious violations. In a follow-up two and one half months after therapy had ended it was found that the therapy group was maintaining its superior conformity.

Kaufman (1963) attempted to use group psychotherapy as a method of preparing a group of long-term institutional MR for community life. After one year of therapy 75 percent of the group made a marginal or better noninstitutional adjustment for a period of at least

three years. A recent study (Silson et al., 1967) showed that five weeks of short-term group interaction led to a significant change in social adjustment and no participation was assocated with no signifcant change.

Dollins (1967) found that the selective use of group discussion can be effective for the maintenance and improvement of the adaptive social behavior of MR adults who do not have community placement experience. Another study by Miezio (1967) reported that 18 months of group psychotherapy resulted in mild to moderate improvement in 12 to 15 patients. It enabled the MR young people to enhance social awareness, elevate self-concept, diminish egocentricity, improve impulse control, externalize aggression, and develop appropriate sublimations.

Rationale for HRT with the MR

In an attempt to state specific aims and provide guidance for therapeutic work a program was published by Thorne (1948). He pointed out that

> psychotherapy with defectives involved: (a) accepting the mental defective as being a worthy individual in spite of his defects, (b) permitting expression and clarification of emotional reactions, (c) patiently teaching him methods of resisting frustration and achieving emotional control (d) outlining standards for acceptable conduct within the ability of each child, (e) building up self-confidence and respect by providing experiences of success, and (f) training the child to seek help intelligently through counselling when faced with insurmountable problems (p. 268.)

Thorne's (1948) program is in accordance in several important respects with the major objectives of HRT as defined by Benne, Bradford, and Lippitt (1964). The

objectives of HRT for the participant as defined by Benne et al. (1964), are as follows:

1. ... increased awareness of and sensitivity to emotional reactions and expressions in himself and others. . . .

2. . . . greater ability to perceive and to learn from the consequences of his actions through attention to feelings, his own and others. . . .

3. . . . the clarification and development of personal values and goals consonant with a democratic and scientific approach to problems of social and personal decision and action.

4. . . . the development of concepts and theoretical insights which will serve as tools in linking personal values, goals, and intentions to actions consistent with these inner factors and with the requirements of the situation. . . . to perceive and diagnose interpersonal and group situations more accurately, to recognize the relationships between inner feelings and perceptions and outer events, and to choose between action alternatives. . . .

5. . . . the achievement of behavioral effectiveness in transactions with one's environments . . . the development of behvioral skills to support better integrations of intentions and actions.

6. . . . integrating new ways of behaving with typical ways of behaving in home settings.

7. . . . "learning how to learn". Each learner is asked to become an analyst of his own process of learning (pp. 16-18).

These objectives are more sophisticated in terms of the individual learner and could not be applied directly to a group of retarded individuals since the retarded would be operating on a preliminary level of sensitivity and awareness. The goal as stated in Chapter I, was to attempt to bring them to a level of sensitivity and awareness approaching that of individuals not intellectually,

culturally, and educationally disadvantaged. This idea has been stated previously by Burton (1954):

> Conventional concepts and techniques of psychotherapy must be readapted for use with this group. The goals must be reduced and reordered in terms of both over-all personal and social needs. It must be recognized that insight as such is not a definitive criterion of improvement and has been over-sold as a requisite and resultant of treatment. Reorganization of experience often occurs without verbalized insight and results in more mature behavior . . . . Psychotherapy for the mentally retarded is probably most valuable of all in the form of group therapy while there are yet too few facts and indications available for group therapy, it offers promise as a unique technique for promoting socialization and adjustment (p. 488).

The literature reported indicates that group psychotherapy has been used successfully with MR individuals. There is no research, however, that indicates HRT has been used with the MR. Important similarities between HRT and group psychotherapy have been noted and the differences would suggest that HRT would be the more appropriate treatment for a group of MR individuals who are not suffering from severe emotional difficulties. As Pearson (1968) has pointed out, "HRT is a technique that is appropriate for use with groups of MR individuals who are not critically in need of psychotherapy (Address to Camrose and District Association for Retarded Children, 1968)." The suggestion that conventional concepts and techniques of group psychotherapy must be modified for use with the MR lends further support to the use of HRT with MR individuals.

Self-Attitudes of the MR

The retarded person learns a set of attitudes, favorable or unfavorable, about himself (his worth, his talents, his threat to others) and these reflected appraisals influence many aspects of his behavior. This observation has let to attempts to measure self-attitudes and to determine their relationship to other personality and social variables (Garlow, Butler, Einig, & Smith, 1962; Garlow, Butler, & Guthrie, 1963; Guthrie, Butler, & Garlow, 1961; Krop, 1968; Mayer, 1967; O'Neil, 1968; Synder, Jefferson, & Straus, 1966). Guthrie et al. (1961) hypothesized that dynamic factors determine the social competency of the MR individual. Consequently, they designed a study to identify groups of MR with similar constellations of self-attitudes and to clarify the bases of this grouping in the hope that identification of the configuration of self-attitudes into which a given MR individual falls might facilitate treatment and training. The findings indicated that self-attitudes of MR tended to fall into clusters of variables; and it is not suitable to dichotomize these persons as having merely favorable or unfavorable self-concepts. Further, these same authors, (Guthrie, et al. 1963) reported that institutionalized MR females tended to have a much more negative set of self-attitudes than MR females who remained at home.

Under the general hypothesis that self-attitudes of retardates are related functionally to perceptions and behavior, the associations between scores on the Laurelton

Self-Attitude Scale (a 150-item self-attitude questionnaire developed for use with MR females) and selected variables were examined. Scores on subtests of this scale were related to a wide range of measures in the domains of achievement, early experience, and personality. Small but significant positive relationships were observed between self-acceptance and measures of intelligence, school achievement, success in the institutional training program, and success on parole. Self-acceptance also was found to be associated with certain dimensions of social needs and certain modes of response to hostility. There was a tendency for those expressing high degrees of self-acceptance to express less need for the support of others and to accept their own hostility (Garlow, et al., 1962).

In the area of academic achievement, Snyder, Jefferson and Strauss (1966), hypothesized that the adequacy of self-concept attitudes would have a determining influence on the degree to which optimum use was made of native endowment. In an attempt to demonstrate the relationship between personality variables and academic achievement, the California Test of Personality was administered to two groups of MR of matched intelligence who possessed widely divergent reading ability. Self-concept attitudes in particular were related to reading achievement. The findings showed high relationship between reading achievement and personality variables in general and self-concept in particular for the MR subjects studied.

Research has amply demonstrated that self-attitudes do play an important role in the adjustment, achievement, and habilitation of the retarded. Recent literature indicates that early school experiences can play an important role in terms of special class placement and teacher orientation. Kern and Pfaeffle (1962) demonstrated that MR children who are in special classes or special schools are better adjusted socially. Nelson (1963) agreed with this in recommending a training program appropriate to the MR individual's needs and abilities.

In an attempt to go a step further and apply a therapeutic technique to the development of positive self-attitudes in the MR, Wilcox & Guthrie (1957) showed the feasibility of group psychotherapy with institutionalized MR young women. They demonstrated behavioral change in the areas of social responsibility, interpersonal relations and care of self. A later study by Garlow, et, al. (1962) was unable to demonstrate differences in self-attitudes and behavior between the experimental and control groups following group psychotherapy. However, the data offered some suggestions for assessment of motivation for treatment indicating that MR individuals earning extreme pretest self-attitude scores and lower behavior ratings may be less motivated to participate in group therapy.

Use of the California Test of Personality (CTP) with the MR

Little attempt has been made to develop objective criteria for measuring the personality of the MR. The intellectual deficiency of the Ss made it difficult to use many of the paper and pencil tests developed for use with normal adults or children. As a result projective techniques, which are difficult to interpret, have often been used. Since the CTP is one of the few objective tests which has been used with the MR in the past, to measure the variables pertinent to this investigation, it was selected for use in the present study. An additional advantage to the use of the CTP was the possibility of using the combination score obtained from three subtests of the CTP to measure self-attitudes (Snyder et al., 1965).

The viewpoint of the CTP expressed in Buros (1959) was that the CTP is a satisfactory group measure of personality. A further report indicated that the CTP seems to be a satisfactory instrument for assessment of self-concept variables, particularly if used for research (Buros, 1959). Reviewers also suggested the use of raw scores rather than percentiles. Wylie (1961) cited a number of studies in which the CTP was used to measure self-ideal congruence, self-concept change, self-acceptance, self-peer correlations where the CTP correlated well with other measures (Hanlon, Hofstuetter, and O'Connor, 1954; Zelen, 1954a, 1954b; O'Dea and Zeran, 1953; Russell, 1953).

Snyder et al. (1966), who shared the viewpoint of the CTP as expressed in Buros' (1959), used the CTP to determine whether two groups of MR Ss who were equal in intelligence but significantly dichotomous in reading ability differed in personality variables. The two groups were also compared as to the difference on the self-concept scale. The Elementary Form was used and administered orally to the subjects. Snyder et al, (1966) found that the better readers showed a more adequate personality adjustment on the Personal, Social, and Total Adjustment Scales and that there was also a significant difference between high and low readers on the subtests identifying self-concept variables specifically.

Kern and Pfaeffle (1962) used the Social adjustment section of the CTP, Elementary Form, to compare the social adjustment of MR children in three educational settings: special classes, special school, and regular classes. As hypothesized, the special school children showed the best overall social adjustment. The regular class retardates showed the poorest overall adjustment, and the special class children occupied an intermediate position on social adjustment. The greatest differences were found in school relations in which the special class and special school groups showed a significant superiority of adjustment. In a discussion of the advantages of using the CTP, the same authors (Kern & Pfaeffle, 1962) stated that this type of measure had the advantage of lending itself to

objective analysis and of being quantifiable and eliminating teacher bias which was prominent in previous studies which employed teacher rating scales. In the same study, Kern and Pfaeffle (1962) expressed the feeling that an objective test can be standardized on MR children which will validly measure their social adjustment and such a measure would be of value in tracing the changes in social adjustment of MR in future research.

A recent study by Wilson, Sakata, and Frumkin (1967), using short-term group-interaction to effect a positive change in social adjustment in the MR, found that group participation led to significant change in social adjustment. The Social Adjustment section of the CTP was used to assess social adjustment. Wilson (1969) stated that his primary interest was in attempting a different method of evaluating the group approach since most studies have relied on observation and rating scales, which depended on the observers concurrence and consequently were very subjective.

In addition to its use with the MR, the CTP has been used in other areas of exceptionality. Hubbard (1945) and Sommers (1944) used the CTP in objective studies of the personality of the blind.

Summary

A current trend in psychology and education is the growing awareness that the personality adjustment and social growth of the MR individual must be attended to as

well as his need to learn academic subjects and to acquire vocational skills. Various methods and techniques have been used in attempting to improve the adjustment and self-attitudes of the MR including individual and group psychotherapy. The research using group psychotherapy is positive and indicates advantages in the group approach. Another group approach is found in HRT which resembles group psychotherapy in several important ways. Members of both kinds of groups indulge in personal revelations, share perceptions, and attempt to analyze and interpret individual and group behavior. The essential differences are: HRT deals with normal persons in search of improved performance in concrete social situations, not with cure of illness, disorder, or pathology; and HRT group discussions are concerned with here-and-now behavior rather than life-history materials found in most psychotherapy groups. The differences between the two group approaches would tend to suggest that HRT would be the more appropriate approach with MR individuals who are not critically in need of psychotherapy. Burton's (1964) idea that conventional concepts and techniques of psychotherapy must be readapted for use with the MR by reducing and reordering goals in terms of over-all personal and social needs, lends additional support to the use of HRT as a more appropriate group approach with the MR.

Objective instruments to measure the adjustment and self-attitudes of MR individuals are sadly lacking.

The instrument selected for this study, the CTP, is one of the few instruments which has been used with the MR in the past. The CTP has the additional advantage of providing a self-attitude score in addition to scores on personal, social, and total adjustment.

CHAPTER III

RESEARCH DESIGN, INSTRUMENTS, AND PROCEDURES

Hypotheses

With regard to the changes in personal adjustment, social adjustment, total adjustment, and self-attitudes in the MR, as a function of participation in a HRT group, the following hypotheses were formulated for this study:

Hypothesis I

The difference between the pretest and posttest Personal Adjustment scores as measured by the CTP will be significantly* greater for the HRT group than for the control group.

Hypothesis 2

The difference between the pretest and posttest Social Adjustment scores as measured by the CTP will be significantly* greater for the HRT group than for the control group.

Hypothesis 3

The difference between the pretest and the posttest Total Adjustment scores as measured by the CTP will be significantly* greater for the HRT group than for the control group.

* Decision rule: The hypotheses were accepted if the difference between the groups was significant at the $p<.05$ level of significance.

Hypothesis 4

The difference between the pretest and posttest Self-Attitude scores as measured by the CTP will be significantly* greater for the HRT group than for the control group.

The Subjects

In this study 32 Ss were selected from among the students attending the Industrial Research and Training Center for the Mentally Retarded. The total enrollment of the Center was 43 but it was decided early in the study to exclude seven students with severe hearing, speech, or emotional problems as well as four students who would not be available for inclusion in an experimental group. The 32 remaining students were randomly assigned to four groups of eight Ss, two control groups and two experimental groups. Two Ss in the control group and two Ss in the experimental group were unavailable for the administration of the post-test so that 28 Ss were used in the final analysis. The mean IQ of the experimental group, as determined by the Wechsler Adult Intelligence Scale, was 52.21 and of the control group, 56.50.

The Research Instruments

The basic instruments used in this study were:

* Decision rule: The hypotheses were accepted if the difference between the groups was significant at the $p < .05$ level of significance.

1. the Wechsler Adult Intelligence Scale (WAIS)
2. the California Test of Personality (CTP)-the Elementary Form for use with grades four through eight--see Appendix A

The Wechsler Adult Intelligence Scale (WAIS), developed by David Wechsler operationally defines intelligence as "the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment (p. 7)." Intelligence is aggregate or global because it is composed of elements or abilities which, though not entirely independent, are qualitatively differentiable. In constructing the WAIS tables, the test scores were equated against a set mean IQ of 100 and a S.D. of 15. Wechsler (1958) classified mental defectives on his scale as those individuals having IQ's of below 70. The WAIS is designed to measure the IQ's of individuals 16 years and older. This particular instrument was chosen on the basis of the age group represented at the Center, with all Ss being 16 or over. It was also considered desirable to use the same instrument to assess all Ss.

The California Test of Personality (CTP) was designed by Thorpe, Clark, and Tiegs (1953) "to identify and reveal the status of certain highly important factors in personality and social adjustment usually designated as intangibles (p. 3)." The CTP is organized around the concept of life adjustment as a balance between personal and social adjustment. Personal adjustment is assumed to be based on

feelings of personal security and social adjustment on feelings of social security (Thorpe et al., 1953). The items in the Personal Adjustment section of the test are designed to measure evidences of six components of personal security, the Social Adjustment section, six components of social security. The twelve components which yield a total Adjustment score are considered to represent groupings of rather specific tendencies to feel, think, and act and are not names of general traits. These components will be referred to as substests of the CTP. The subtests which make up the Personal Adjustment section of the test are: 1A--Self-Reliance, 1B--Sense of Personal Worth, 1C--Sense of Personal Freedom, 1D--Feeling of Belonging, 1E--Withdrawing Tendencies, 1F--Nervous Symptoms. The subtests which make up the social adjustment section of the test are: 2A--Social Standards, 2B--Social Standards, 2C--Anti-Social Tendencies, 2D--Family Relations, 2E--School Relations, 2F--Community Relations. The subtests which measure Self-Attitudes are taken from the Personal Adjustment section of the CTP. These subtests are: 1A--Self-Reliance, 1B--Sense of Personal Worth, 1D--Feeling of Belonging. A complete description of each subtest is found in Appendix B.

Each of the twelve subtests contains twelve YES or NO responses yielding a total of 144 questions. The norms for the Elementary Level Test were derived from test data on 4,562 pupils in grades four to eight inclusive

in schools representing six states. The Elementary Form, for use with grades four through eight, was selected since the vocabulary was consistent with the oral comprehension of Ss (Kern & Pfaeffle, 1962; Snyder et al., 1965; Wilson et al., 1967).

The Experimental Design

Group membership was determined by constituting four random groups using a table of random numbers: two groups to participate in HRT and two groups to serve as no-treatment control groups. The experimental groups participated in ten sessions of two hours each, twice weekly for five weeks. All Ss were given the WAIS prior to their participation in the study to determine the IQ for each S. The CTP was administered to all Ss before and after the five week program. Using the CTP as a measure, an analysis was made to determine changes in personal adjustment, social adjustment, total adjustment, and self-attitudes.

Administrative Procedures and Data Preparation

The CTP was administered to all Ss before and after the five week program. In the present study, the testing procedure was modified slightly as it has been in previous studies (Kern & Pfaeffle, 1962; Snyder et al., 1965). Administration took place in small groups of from two to six Ss with the investigator repeating the questions orally and the Ss indicating their responses on the test booklet. Two Ss who were not included in the sample were given the

CTP initially, to determine what modifications, if any, would be necessary for use with a MR population. It was found that several items which caused confusion to the Ss or used terminology suitable for younger persons required minor changes (see Appendix A).

Directions for administration 'for reading questions to pupils when they mark on test booklet,' as specified in the manual, were used, with an added explanation as to how to indicate responses since the format of the test was changed slightly with respect to the method of responding (see Appendix A).

The directions were as follows:

> Put your name at the top of your answer booklet.
> This booklet has some questions which can be answered YES or NO.
> Your answers will show what you usually think, how you usually feel, or what you usually do about things (from CTP manual).

The investigator changed the instructions for responding to read:

> I will say the number of the question and then read the question to you. You can put a check mark across from the number of the question under YES or NO, whichever is the correct answer for you (the method of making a check mark under YES or NO was very carefully specified by demonstrating on the blackboard.)

Each test was hand-scored with a key by the investigator and the Ss raw score for each subtest was calculated (correct responses are indicated in Appendix A). Although percentile norms were avilable for each subtest, no attempt was made to use them because they were judged to be inappropriate for a MR population (Kern & Pfaeffle,

1962). All results in this study were based upon raw scores. Testing conditions were good and co-operation high. The Ss were serious about the test and in fact seemed to enjoy this experience which was new to them in terms of being able to indicate their own responses and become actively involved in the procedure. Many said and demonstrated by their behavior that they had never done anything quite like this before; they had been asked to think about things which they rarely, if ever, considered.

Analysis of Data

To determine whether the two groups differed significantly following the experimental treatment, a Two-Way Analysis of Variance with repeated measures was carried out (Winer, 1962, pp. 241, 302). The analysis was carried out four times to look at each hypothesis separately.

Twelve additional Two-Way Analysis of Variance were carried out to compare the pretest and posttest scores for the two groups on the twelve subtests of the CTP.

CHAPTER IV

RESULTS AND FINDINGS

The Subjects

The initial design involved the attainment of CTP scores from each of 32 MR individuals registered in a training program at the Industrial Research and Training Center, before and after five weeks of participation by 16 Ss, the experimental group, in a HRT Group. Complete responses on the posttest administration of the CTP could not be obtained for four Ss, two Ss in the experimental group and two Ss in the control group, and therefore they were dropped from the study. To analyze the data, the scores on the CTP for the two experimental groups were pooled and compared with the pooled scores of the two control groups.

The remaining 28 Ss had an average age of 24.86 (S.D.=7.47) and an average IQ of 54.36 (S.D.=10.99). The average age of the experimental group was 23.57 (S.D.=3.13), while the average age of the control group was 26.14 (S.D.=10.33). There was no significant difference between the mean ages of the experimental and control groups. The average IQ of the experimental group was 52.21 (S.D.= 8.76), while the average IQ of the control group was 56.5 (S.D.=13.17). There was no significant difference between the mean IQ's of the experimental and control groups. A comparison of the groups is given in Table I.

TABLE 1

Distribution of Subjects According to Training Groups, Age, IQ, and Sex

Group	Males	Females	Mean Age	Age Range	Standard Deviation	Mean I.Q.	I.Q. Range	S.D.
Experimental	8	6	23.57	18-29	3.13	52.21	41-71	8.76
Control	6	8	26.14	16-53	10.33	56.50	41-84	13.17

Statistical Tests for Hypothesis 1

Hypothesis 1 stated that the difference between the pretest and posttest Personal Adjustment scores as measured by the CTP would be significantly ($p<.05$) greater for the HRT group than for the control group. The means for the two groups on the pre-and posttest are shown in Table 1a. The results of the two-way analysis of variance dealing with Hypothesis 1 are shown in Table 2.

As Table 2 indicates, there was no significant difference between the experimental group mean and the control group mean on personal adjustment. In addition, the pretest mean on personal adjustment was not significantly different from the posttest mean on personal adjustment. The interaction effect of the experimental and control group means with the pretest and posttest means was not significant. Thus there was no evidence to support the Hypothesis that participation in a HRT group resulted in greater personal adjustment.

Statistical Tests for Hypothesis 2

Hypothesis 2 stated that the difference between the pretest and posttest Social Adjustment scores as measured by the CTP would be significantly ($p<.05$) greater for the HRT group than for the control group. The means for the two groups on the pre-and posttest are shown in Table 1a. The results of the two-way analysis of variance dealing with Hypothesis 2 are shown in Table 3.

TABLE 1a

Summary of the Means for Personal, Social, and Total Adjustment and Self-Attitudes for the Experimental and Control Groups on the Pre- and Posttest

Group	Personal Adjustment		Social Adjustment		Total Adjustment		Self-Attitudes	
	Pretest $\bar{X}$	Posttest $\bar{X}$	Pretest $\bar{X}$	Posttest $\bar{X}$	Pretest $\bar{X}$	Posttest $\bar{X}$	Pretest $\bar{X}$	Posttest $\bar{X}$
Exp.	47.64	43.29	54.00	49.29	101.64	91.64	24.71	24.93
Control	45.86	47.00	51.79	50.57	97.64	97.23	23.79	26.71

TABLE 2

Summary of the Analysis of Variance for Scores on Personal Adjustment

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	13.02	1	13.02	.12
Pre- and Posttest (B)	36.15	1	36.15	.85
A x B	105.82	1	105.82	2.50
Within Cell	1101.44	26	42.36	

$p<.05$

TABLE 3

Summary of the Analysis of Variance for Scores on Social Adjustment

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Groups (A)	3.01	1	3.01	.06
Pre- and Posttest (B)	122.99	1	122.99	3.56
A x B	42.88	1	42.88	1.24
Within Cell	897.63	26	34.52	

$p < .05$

As Table 3 indicates, there was no significant difference between the experimental group mean and the control group mean on social adjustment. In addition, the pretest mean on social adjustment was not significantly different from the posttest mean on social adjustment. The interaction effect of the experimental and control group means with the pretest and posttest means was not significant. Thus there was no evidence to support the hypothesis that participation in a HRT group would result in greater social adjustment.

Statistical Tests for Hypothesis 3

Hypothesis 3 stated that the difference between the pretest and posttest Total adjustment scores as measured by the CTP would be significantly ($p<.05$) greater for the HRT group than for the control group. The means for the two groups on the pre-and posttest are shown in Table 1a. The results of the two-way analysis of variance dealing with Hypothesis 3 are shown in Table 4.

As Table 4 indicates, there was no significant difference between the experimental group mean and the control group mean on total adjustment. In addition, the pretest mean on total adjustment was not significantly different from the posttest mean on total adjustment. The interaction effect of the experimental and control group means with the pretest and posttest means was not significant. Thus there was no evidence to support the hypothesis that participation in a HRT group would result in greater total

TABLE 4

Summary of the Analysis of Variance for Scores on Total Adjustment

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Groups (A)	18.59	1	18.59	.07
Pre- and Posttest (B)	330.53	1	330.53	2.57
A x B	370.18	1	370.18	2.88
Within Cell	3338.50	26	128.40	

$p<.05$

adjustment.

Statistical Tests for Hypothesis 4

Hypothesis 4 stated that the difference between the pretest and posttest self-attitude scores as measured by the CTP would be significantly ($p<.05$) greater for the HRT group than for the control group. The means for the two groups on the pre-and posttest are shown in Table 1a. The results of the two-way analysis of variance dealing with Hypothesis 4 are shown in Table 5.

As Table 5 indicates, there was no significant difference between the experimental group mean and the control group mean on self-attitudes. The posttest mean on self-attitudes, however, was significantly greater than the pretest mean on self-attitudes ($F=6.13$, $p<.05$). The interaction effect of the experimental and control group means with the pretest and posttest means was significant ($F=4.57$, $p<.05$). Winer (1962) has indicated that tests on simple main effects would be called for in the event of a significant interaction effect. Consequently, Winer's (1962) procedure for computing the variation due to the simple main effects was adopted. The results of this analysis are found in Table 6.

As Table 6 indicates there were no significant differences between the experimental and control group means on the pretest or the posttest. There was no significant difference between the experimental group means on the pretest and the posttest. There was, however, a sig-

TABLE 5

Summary of Analysis of Variance for Scores on Self-Attitudes

Source of Variation	Sum of Squares	d.f.	Mean Squares	F
Exp. and Control Groups (A)	2.56	1	2.56	.09
Pre- and Posttest (B)	34.58	1	34.58	6.13*
A x B	25.80	1	25.80	4.57*
Within Cell	146.65	26	5.64	

*p<.05

TABLE 6

Summary of Tests on Simple Main Effects
for Scores on Self-Attitudes

Source of Variation	Mean Square	F
Exp. Pretest vs Control Pretest	6.04	.35
Exp. Posttest vs Control Posttest	22.32	1.31
Control Pretest vs Control Posttest	60.04	10.64*
Exp. Pretest vs Exp. Posttest	.32	.06

*$p < .01$

nificant difference between the control group means on the pretest and the posttest ($F=10.64$, $p<.01$). Thus further analysis indicated no evidence to support the hypothesis that participation in a HRT group would result in a change in self-attitudes.

Further Analyses of the Hypotheses

The prime purpose of the present study was an attempt to obtain experimental evidence to support the hypothesis that MR individuals participating in a HRT group would show more significant changes in personal, social, and total adjustment as well as self-attitudes than MR individuals not exposed to the same experimental treatment. Statistical analysis of the pre-and posttest scores on the CTP for the two groups did not provide evidence to support this hypothesis. On the contrary, in one instance the control group demonstrated a positive change. Such a finding would tend to indicate one of two things; either the experimental treatment is ineffectual or the instrument used to measure change is inappropriate. The CTP was selected for several reasons: it is an objective measure, it has been used with MR individuals in the past, it is easy to administer and score, and it directly measures the variables of interest. To test the hypothesis, total scores on personal adjustment, social adjustment, total adjustment, and self-attitudes were used. The total score on each of these variables, however, may be broken down into scores on individual subtests. Each subtest measures a different component

of the variable. In another study which used the CTP to compare the social adjustment of MR children in three educational settings (Kern & Pfaeffle, 1962), each subtest was analyzed separately rather than combined with the other subtests in order to take into account the independent character of each trait which would be lost if they were combined. As a result of an analysis of variance for each subtest comparing the three subgroups (special school, special class, and waiting list pupils) significant differences were found between the means of these groups on two of the subtests. The results of this study seemed to indicate that, although total scores on the CTP may not reflect differences, scores on individual subtests of the CTP might. For this reason a two-way analysis of variance was calculated for each of the twelve subtests of the CTP comparing the mean scores of the experimental and control groups on the pre-and posttest. The means and standard deviations for the two groups on the pre-and posttest for the six subtests comprising the personal adjustment section of the CTP are shown in Table 7. Table 8 contains the means and standard deviations for the six subtests comprising the social adjustment section of the CTP. Each mean represents the mean number of items scored as being favorable out of a possible score of twelve.

Further analyses of subtests of personal adjustment. The results of the six two-way analyses indicated no significant differences on four of the subtests. Tables

TABLE 7

Summary of Means and Standard Deviations on Personal Adjustment by Sub-test and Group on the Pre- and Post-Test

		1A		1B		1C		1D		1E		1F	
		Self-Reliance		Sense of Personal Worth		Sense of Personal Freedom		Feeling of Belonging		Withdrawing Tendencies		Nervous Symptoms	
Group	Test	Mn.	S.D.	Mn.	S.D.	Mn.	S.D.	Mn.	S.D.	Mn.	S.D.	Mn.	S.D.
Exp.	Pre-	7.64	1.39	8.29	1.77	7.79	2.12	8.79	1.42	6.57	3.52	8.57	3.01
Exp.	Post	7.79	1.19	7.71	1.68	6.43	1.83	8.93	0.73	5.21	2.49	6.71	3.36
Control	Pre-	7.57	1.55	8.29	2.23	7.71	1.98	8.00	1.66	6.57	3.32	7.71	3.0
Control	Post	7.14	1.40	9.14	2.25	7.64	2.13	9.29	1.98	6.07	3.08	6.50	2.50

TABLE 8

Summary of Means and Standard Deviations on Social Adjustment by Sub-Test and Group on the Pre- and Post- test

		2A		2B		2C		2D		2E		2F	
		Social Standards		Social Skills		Anti-Social Tendencies		Family Relations		School Relations		Community Relations	
Group	Test	Mn.	S.D.	Mn.	S.D.	Mn.	S.D.	Mn.	S.D.	Mn.	S.D.	Mn.	S.d.
Exp.	Pre-	9.07	1.49	8.64	1.69	8.71	2.33	8.71	2.49	9.29	1.82	9.57	0.94
Exp.	Post-	7.71	2.05	7.50	2.28	7.57	2.79	8.00	2.18	8.64	1.55	8.93	1.00
Control	Pre-	8.71	1.73	7.36	1.65	9.14	1.99	8.93	2.20	8.86	2.11	8.79	1.31
Control	Post-	7.71	2.40	7.93	1.69	8.79	1.81	8.93	1.73	9.36	1.39	8.21	1.48

C-1 to C-4 in Appendix C report the results of the analyses on these four subtests.

As Tables 9 and 10 indicate there were significant differences between the mean pretest scores and the mean posttest scores, on two of the subtests of Personal Adjustment, 1D--Feeling of Belonging and IF--Nervous Symptoms. For subtests 10 (Table 9) there was a significant change in feeling of belonging in a positive direction on the posttest ($F=4.73$, $p<.05$). For subtest 1F (Table 10) there was a significant change in nervous symptoms in a negative direction on the posttest, as evidenced by an increase in nervous symptoms ($F=5.99$, $p<.05$). There were, however, neither significant differences between the groups nor interactions between the group means and the pre-and posttest means which suggested the differences did not depend on the group. Thus, the changes which ocurred were not dependent upon inclusion in the experimental group.

Further analysis of subtests of social adjustment. The results of the six two-way analyses indicated no significant differences on three of the subtests. Tables C-5 to C-7 in Appendix C report the results of the analyses of these three subtests.

As Tables 11, 12, and 14 indicate there were significant differences on three of the subtests of Social Adjustment, 2A--Social standards, 2B--Social Skills, and 2F--Community Relations.

For subtest 2A (Table 11) there was a significant

TABLE 9

Summary of the Analysis of Variance for Scores on Subtest 1D--Feeling of Belonging

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	.64	1	.64	.21
Pre- and Posttest (B)	7.14	1	7.14	4.73*
AxB	4.58	1	4.58	3.03
Within Cell	39.29	26	1.51	

*$p<.05$

TABLE 10

Summary of the analysis of Variance for Scores on Subtest 1F--Nervous Symptoms

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	3.50	1	3.50	.28
Pre- and Posttest (B)	31.5	1	31.50	5.99*
AxB	1.79	1	1.79	.34
Within Cell	136.71	26	5.26	

*p<.05

TABLE 11

Summary of the Analysis of Variance for Scores on Subtest 2A--Social Standards

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	.45	1	.45	.09
Pre- and Posttest (B)	19.45	1	19.45	7.37*
A x B	.45	1	.45	.17
Within Cell	68.61	26	2.64	

*$p < .05$

difference between the mean pre-and posttest scores for social standards in a negative direction ($F=7.37$, $p<.05$). There were neither significant differences between the group means nor interactions between the group means and the pre-and posttest means. Again the changes which ocurred were not dependent upon inclusion in the experimental group.

For subtest 2B (Table 12) there were no significant differences between the group means or between the pre-and posttest means on social skills. There was, however, a significant interaction of the experimental and control group means with the pre-and posttest means ($F=4.49$, $p<.05$). The results of tests on simple main effects (Winer, 1962) are found in Table 13. As Table 13 indicates there were no significant differences. The difference between the experimental group means on the pre-and posttest, however, approached significance ($F=9.14$, $p=.056$). Thus there were no significant differences on subtest 2B--Social Skills.

For subtest 2F (Table 14) there was a significant difference between the experimental and control group means on community relations. There were, however, no differences between the pre-and posttest means or interactions between the group means and the pre-and posttest means. This finding suggested that the difference between the groups was not dependent upon the posttest administration of test and therefore not dependent upon the experimental treatment.

TABLE 12

Summary of the Analysis of Variance for Scores on Subtest 2B--Social Skills

Source of Variation	Sum of Squares	d.f.	Mean Squares	F
Exp. and Control Group (A)	2.57	1	2.57	.57
Pre- and Posttest (B)	1.14	1	1.14	.50
A x B	10.29	1	10.29	4.49*
Within Cell	59.57	26	2.29	

*$p < .05$

TABLE 13

Summary of Tests on Simple Main Effects for Scores on Subtest 2B--Social Skills

Source of Variation	Mean Square	F
Exp. Pretest vs Control Pretest	11.57	3.4
Exp. Posttest vs Control Posttest	1.23	.38
Control Pretest vs Control Posttest	2.29	1.00
Exp. Pretest vs Exp. Posttest	9.14	3.99

$p < .05$

TABLE 14

Summary of the Analysis of Variance for Scores on Subtest 2F--Community Relations

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	7.88	1	7.88	5.03*
Pre- and Posttest (B)	5.17	1	5.17	3.91
A x B	.02	1	.02	.02
Within Cell	34.32	26	1.32	

*$p < .05$

Summary of results of further analysis. Further analyses on the subtests of the CTP measuring Personal Adjustment indicated the following:

1. No significant differences on four of the subtests: 1A--Self-Reliance, 1B--Sense of Personal Worth, 1C--Sense of Personal Freedom, and 1E--Withdrawing Tendencies.
2. Significant differences between the total pretest scores and the total posttest scores on two of the subtests: 1D--Feeling of Belonging and 1F--Nervous Symptoms.
3. On subtest 1D, both groups moved in a positive direction (see Table 7) while on subtest 1F both groups moved in a negative direction.

Further analysis on the subtests of the CTP measuring Social Adjustment indicated the following:

1. No significant differences on four of the subtests: 2B--Social Skills, 2C--Anti-Social Tendencies, 2D--Family Relations, and 2E--School Relations.
2. A significant difference between the total pretest and total posttest scores on subtest 2A--Social Standards. Both groups moved in a negative direction (see Table 8).
3. A significant difference between the total experimental group and the total control group scores on subtest 2F--Community Relations.

From the results obtained when two-way analyses of variance were carried out for each subtest, it was concluded that the additional analysis supported the conclusions about the earlier findings for Hypotheses 1, 2, 3, and 4. The conclusions were that participation in a HRT group did not result in a change in personal adjustment, social adjustment, total adjustment, or self-attitudes.

Additional Findings

There is no information on studies of reliability or validity for the CTP when used with retarded individuals (California Test Bureau, 1969) and it would be inappropriate to generalize the reported reliabilities for the Personal Adjustment and Social Adjustment scores on the CTP (.93 and .92 respectively) to a retarded population. Consequently, a test-retest reliability check on the instrument was carried out.

Reliability. The test-retest reliability check was carried out by determining the correlations between control group scores on the pre-and posttest for Personal Adjustment, Social Adjustment, Total Adjustment, and Self-Attitudes. These correlations were then tested for significance ($p<.05$) using a t-test. The correlations and t-scores are found in Table 15.

Table 15 indicates that the correlations found between pre-and posttest scores on personal adjustment for the control group were significant ($p<.05$). Although the correlations found between pre- and post- test scores on

TABLE 15

Correlations Between Pre- and Post- test Scores on Personal, Social, and Total Adjustment and Self-Attitudes on the CTP for the Control Group

Section of CTP	Correlation	t	p
Personal Adjustment	.54	2.199	.048*
Social Adjustment	.47	1.84	.09
Total Adjustment	.49	1.96	.07
Self-Attitudes	.53	2.14	.053

*$p < .05$

social and total adjustment and self-attitudes approached significance, they did not reach it.

CHAPTER V

SUMMARY, CONCLUSIONS, AND DISCUSSION

Summary

The purpose of this study was an attempt to evaluate the effects of HRT on the personal adjustment, social adjustment, total adjustment, and self-attitudes of a group of MR subjects. Four hypotheses were formulated to test whether or not the personal adjustment, social adjustment, total adjustment, or self-attiudes of the MR could be changed through HRT as evidenced by their scores on the CTP.

The Ss were 28 MR males and females selected from a total population of 43 MR individuals receiving training at the Industrial Research and Training Center of Edmonton, Alberta. The Ss had a mean age of 24.86 years and a mean IQ (WAIS full scale) of 54.36.

The Ss were selected and randomly assigned to four groups, two experimental and two control groups. The experimental groups participated in ten HRT sessions of two hours each for five weeks, while the control groups did not participate in any HRT sessions. Personal Adjustment, Social Adjustment, Total Adjustment, and Self-Attitude scores on the CTP (Elementary Form) were obtained for both groups before and after the five week program.

To test the hypotheses, use was made of the IBM 360/67 computer facilities at the University of Alberta. To test the significance of the difference between the pre- and posttest measures for the two groups, a two-way analysis of variance with repeated measures was performed for each hypothesis. Further analysis consisted of twelve additional two-way analyses of variance, one for each subtest of the CTP, comparing the mean scores of the experimental and control groups on the pre-and posttest.

Conclusions

The conclusions for each of the three hypotheses tested are presented individually below :

Hypothesis 1

The difference between the pretest and posttest Personal Adjustment scores as measured by the CTP will be significantly ($p<.05$) greater for the HRT group than for the control group.

Since no significant differences were found between the means for the HRT group and the control group on personal adjustment, there was no evidence to support the hypothesis. In addition, it must be noted that the direction of change for the experimental group, although not statistically significant, was in the opposite direction to that expected.

Hypothesis 2

The difference between the pretest and posttest Social Adjustment scores as measured by the CTP will be significantly ($p<.05$) greater for the HRT group than for the control group.

Since no significant differences were found between the means for the HRT group and the control group on social adjustment, there was no evidence to support the hypothesis. Again, it must be noted that the direction of change for the experimental group, although not statistically significant, was in the opposite direction to that expected.

Hypothesis 3

The difference between the pretest and posttest Total Adjustment scores as measured by the CTP will be significantly ($p<.05$) greater for the HRT group than for the control group.

Since no significant differences were found between the means for the HRT group and the control group on total adjustment, there was no evidence to support the hypothesis. In addition, it must be noted that the direction of change for the experimental group, although not statistically significant, was in the opposite direction to that expected.

Hypothesis 4

The difference between the pretest and posttest Self-Attitude scores as measured by the CTP will be significantly ($p<.05$) greater for the HRT group than for the control group.

Since no significant differences were found between the means for the HRT group and the control group on self-attitudes, there was no evidence to support the hypothesis. In addition, the pretest and posttest mean scores were essentially the same for the experimental group indicating no direction of change. There was, however, a significant difference between the control group means on the pre-and posttest. The change was in a positive direction.

Further Analysis

Further analysis in terms of individual subtests of the CTP indicated no significant differences between the pre-and posttest means for the two groups. The finding that HRT did not result in a change in the components measured by individual subtests of the CTP supported the conclusions about the earlier findings for Hypotheses 1, 2, 3, and 4.

Discussion

The overall results of the present study did not support the hypotheses. There are certain points, however, arising from a consideration of the results of the study, which may be noteworthy. Furthermore, directions for further study may be provided by some questions which arise from the present study. The remainder of this chapter deals with possible interpretations of the findings and some implications for further research.

A strict statistical interpretation of the hypotheses tested in this study would indicate that HRT is ineffective in improving the adjustment and self-attitudes of MR individuals. If, on the other hand, the general direction of the changes detected is considered another conclusion is suggested. According to data obtained from the instrument used in this study, the experimental group appeared less well adjusted at the close of HRT than it was at the beginning. Gazda and Ohlser (1961) reported similar results in a study on the effects of short-term group counselling on

prospective counselors. At post-testing the experimental Ss appeared less well-adjusted than at pre-testing, although the difference was not significant. In a six-month follow-up the same authors (Gazda & Ohlsen, 1961) found the scores were in the predicted direction but not statistically significant. This finding together with the finding that all of the counselors felt the counseling period was too short, led the authors to suggest that if a longer period of treatment had been available to the clients, the trends toward improved adjustment obtained from the follow-up data would have reached statistical signifance.

Gazda and Ohlsen (1961) offered no theoretical basis for this conclusion but the finding of the study is relevant to the present study in terms of Miles' (1960) explanation of the outcomes of HRT. Miles (1960) hypothesized a sequential model, showing successive states of the learner as he proceeds through a HRT experience. In this model the learner must first have a wish to alter or improve his behavior in some way, if learning is to go forward. Beyond this, the learner must "unfreeze" old behavior patterns, so that new ones can be actively considered while the learner is in a plastic, nondefensive condition. Thirdly, it is believed that the wishing-to-change, unfrozen learner must also become actively involved in the give and take of training group action, rather than remain a bystander or marginal member of the group. Finally, the learner must receive clear, strong, helpful feedback - information on the

effects of his behavior on other persons in the group. The three process predictors (unfreezing, involvement, and feedback) have been found to be significantly related to gain during HRT, providing support for the conceptualization (Miles, 1961).

The results of the present study can be interpreted, in part, in terms of Miles' (1961) model. The posttest data for the experimental group along with the fact that the group was composed of MR might suggest that at the time of the posttest the Ss had, for the most part, reached the unfrozen state and were progressing towards active involvement in the give and take of training group action but had not received a great deal of feedback. This interpretation of the results would tend to indicate that the Ss in the experimental group experienced increased sensitivity and awareness to their own feelings, through HRT, but the experimental treatment was not long enough to allow him to work through these new awarenesses. Consequently, instead of an increase in adjustment, the data indicated a decrease in adjustment. A follow-up study might have indicated a change in adjustment in a positive direction, as happened in Gazda and Ohlsen's (1961) study. The difference in the groups, however, with MR individuals having more difficulty solving problems on their own and being less likely to seek help, makes it difficult to generalize from Gazda and Ohlsen's (1961) study to the present study. A longer treatment period would seem to be indicated and would

perhaps lead to significant changes in adjustment in the MR.

Additional support for increasing the length of training follows from studies using group psychotherapy with the MR. In the majority of the studies reporting significant results, the treatment has lasted anywhere from three months to two years. Length of training becomes particularly important when it is considered that the MR are operating on a preliminary level of sensitivity and awareness. A HRT program which is the same length as that for normal individuals may be long enough to increase the level of sensitivity and awareness but too short to bring about positive changes in adjustment.

A total or partial residential laboratory would perhaps be more effective in bringing about changes in adjustment and self-attitudes in the MR. Shein and Bennis (1965), when discussing the non-residential, part-time HRT program, have pointed out that, "It is harder, but not impossible, to establish the appropriate climate necessary for effective laboratory training and meaningful learning in the nonresidential setting (p. 74)."

An important consideration in attempting to interpret the findings of the present study was the instrument used to measure changes in adjustment and self-attitudes in the MR. The CTP may not be capable of detecting the changes in adjustment and self-attitudes made by the MR during HRT, primarily because the CTP might be unsuitable for use with a MR population. The low reliabilities

found for the control group on the pre- and posttest of the CTP, along with the finding that controls improved significantly in self-attitudes, tends to indicate that this MR population was not responding consistently to the items on the CTP.

In summary, the findings of the present study indicated a need to either refine present instruments or develop new instruments for use with the MR. In addition, a careful look at the HRT program is needed, with a view to modifying the training experience in terms of length of training, content of sessions, and the emphasis in training.

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APPENDIX A

THE CALIFORNIA TEST OF PERSONALITY

SECTION 1 A

		Yes	No
1.	Do you usually keep at your work until it's done?	✓	
2.	Do you usually apologize when you are wrong?	✓	
3.	Do you help other boys and girls have a good time at parties?	✓	
4.	Do you usually believe what other boys or girls tell you?	✓	
5.	Is it easy for you to recite or talk in class?	✓	
6.	When you have some free time, do you usually ask your parents or teacher what to do?		✓
7.	Do you usually go to bed on time, even when you wish to stay up?	✓	
8.	Is it hard to do your work when someone blames you for something?		✓
9.	Can you often get boys and girls to do what you want them to?	✓	
10.	Do your parents or teachers usually need to tell you to do your work?		✓
11.	If you are a boy, do you talk to new girls? If you are a girl, do you talk to new boys?	✓	
12.	Would you rather plan your own work than to have someone else plan it for you?	✓	

Section 1A
(number scored .....)

SECTION 1 B

		Yes	No
13.	Do your friends generally think that your ideas are good?	✓	
14.	Do people often do nice things for you?	✓	
15.	Do you wish that your father (or mother) had a better job?		✓
16.	Are your friends and classmates usually interested in the things you do?	✓	
17.	Do your classmates seem to think that you are not a good friend?		✓
18.	Do your friends and classmates often want to help you?	✓	
19.	Are you sometimes cheated when you trade things?		✓
20.	Do your classmates and friends usually feel that they know more than you do?		✓
21.	Do your folks seem to think that you are doing well?	✓	
22.	Can you do most of the things you try?	✓	
23.	Do people often think that you cannot do things very well?		✓
24.	Do most of your friends and classmates think you are smart.	✓	

Section 1B
(Number scored .....)

SECTION 1 C

		Yes	No
25.	Do you feel that your folks boss you too much?		✓
26.	Are you allowed enough time to play?	✓	
27.	Can you usually bring your friends home when you want to?	✓	
28.	Do others usually decide to which parties you may go?		✓
29.	Can you usually do what you want to during your spare time?	✓	
30.	Are you stopped from doing most of the things you want to?		✓
31.	Do your folks often stop you from going around with your friends?		✓
32.	Do you have a chance to see many new things?	✓	
3.	Are you given some spending money?	✓	
34.	Do your folks stop you from taking short walks with your friends?		✓
35.	Are you punished for lots of little things?		✓
36.	Do some people try to boss you so much that you don't like it?		✓

Section 1C
(number scored .....)

SECTION 1 D

		Yes	No
37.	Do pets and animals make friends with you easily?	✓	
38.	Are you proud of your school?	✓	
39.	Do your classmates think you cannot do well in school?		✓
40.	Are you as well and strong as most boys and girls?	✓	
41.	Are your cousins, aunts, uncles, or grandparents as nice as those of most of your friends?	✓	
42.	Are the members of your family usually good to you?	✓	
43.	Do you often think that nobody likes you?		✓
44.	Do you feel that most of your classmates are glad that you are a member of the class?	✓	
45.	Do you have just a few friends?		✓
46.	Do you often wish you had some other parents?		✓
47.	Is it hard to find friends who will keep your secrets?		✓
48.	Do the boys and girls usually invite you to their parties?	✓	

Section 1D
(number scored .....)

SECTION L E

		Yes	No
49.	Have people often been so unfair that you gave up?		✓
50.	Would you rather stay away from most parties?		✓
51.	Does it make you shy to have everyone look at you when you enter a room?		✓
52.	Are you often greatly discouraged about many things that are important to you?		✓
53.	Do your friends or your work often make you worry?		✓
54.	Is your work often so hard that you stop trying?		✓
55.	Are people often so unkind or unfair that it makes you feel bad?		✓
56.	Do your friends or classmates often say or do things that hurt your feelings.		✓
57.	Do people often try to cheat your or do mean things to you?		✓
58.	Are you often with people who have so little interest in you that you feel lonesome?		✓
59.	Are your studies or your life so dull that you often think about many other things?		✓
60.	Are people often mean or unfair to you?		✓

Section 1E
(number scored .....)

SECTION 1F

		Yes	No
61.	Do you often have dizzy spells?		✓
62.	Do you often have bad dreams?		✓
63.	Do you often bite your fingernails?		✓
64.	Do you seem to have more headaches than most children.		✓
65.	Is it hard for you to keep from being restless much of the time?		✓
66.	Do you often find you are not hungry at meal time?		✓
67.	Do you catch cold easily?		✓
68.	Do you often feel tired before noon?		✓
69.	Do you believe that you have more bad dreams than most of the boys and girls?		✓
70.	Do you often feel sick to your stomach?		✓
71.	Do you often have sneezing spells?		✓
72.	Do your eyes hurt often?		✓

SECTION 1F
(Number scored .....)

SECTION 2 A

		Yes	No
73.	Is it all right to cheat in a game when the umpire is not looking?		✓
74.	Is it all right to disobey teachers if you think they are not fair to you?		✓
75.	Should you return things to people who won't return things they borrow?	✓	
76.	Is it all right to take things you need if you have no money?		✓
77.	Is it necessary to thank those who have helped you?	✓	
78.	Do children need to obey their fathers or mothers even when their friends tell them not to?	✓	
79.	If a person finds something, does he have a right to keep it or sell it?		✓
80.	Do boys and girls need to do what their teachers say is right?	✓	
81.	Should boys and girls ask their parents for permission to do things?	✓	
82.	Should children be nice to people they don't like?	✓	
83.	Is it all right for children to cry or whine when their parents keep them home from a show?		✓
84.	When people get sick or are in trouble, is it usually their own fault?		✓

SECTION 2A
(numbered scored .....)

SECTION 2 B

		Yes	No
85.	Do you let people know you are right no matter what they say?		✓
86.	Do you try games at parties even if you haven't played them before?	✓	
87.	Do you help new pupils to talk to other children?	✓	
88.	Does it make you feel angry when you lose in games at parties?		✓
89.	Do you usually help other boys and girls have a good time?	✓	
90.	Is it hard for you to talk to people as soon as you meet them?		✓
91.	Do you usually act friendly to people you do not like?	✓	
92.	Do you often change your plans in order to help people?	✓	
93.	Do you usually forget the names of people you meet?		✓
94.	Do the boys and girls seem to think you are nice to them?	✓	
95.	Do you usually keep from showing your temper when you are angry?	✓	
96.	Do you talk to new children at school?	✓	

SECTION 2B
(number scored .....)

SECTION 2 C

		Yes	No
97.	Do you like to scare or push smaller boys and girls?		✓
98.	Have unfair people often said that you made trouble for them?		✓
99.	Do you often make friends or classmates do things they don't want to?		✓
100.	Is it hard to make people remember how well you can do things?		✓
101.	Do people often act so mean that you have to be nasty to them?		✓
102.	Do you often have to make a "fuss" or "act up" to get what you deserve?		✓
103.	Is anyone at school so mean that you tear, or cut, or break things?		✓
104.	Are people often so unfair that you lose your temper?		✓
105.	Is someone at home so mean thatyou often have to quarrel?		✓
106.	Do you sometimes need something so much that it is all right to take it?		✓
107.	Do classmates often quarrel with you?		✓
108.	Do people often ask you to do such hard or foolish things that you won't do them?		✓

Section 2C
(number scored .....)

SECTION 2 D

		Yes	No
109.	Do your folks seem to think that you are just as good as they are?	✓	
110.	Do you have a hard time because it seems that your folks hardly ever have enough money?		✓
111.	Are you unhappy because your folks do not care about the things you like?		✓
112.	When your folks make you mind are they usually nice to you about it.	✓	
113.	Do your folks often claim that you are not as nice to them as you should be?		✓
114.	Do you like both of your parents about the same?	✓	
115.	Do you feel that your folks fuss at you instead of helping you?		✓
116.	Do you sometimes feel like running away from home?		✓
117.	Do you try to keep boys and girls away from your home because it isn't as nice as theirs?		✓
118.	Does it seem to you that your folks at home often treat you mean?		✓
119.	Do you feel that no one at home loves you?		✓
120.	Do you feel that too many people at home try to boss you?		✓

SECTION 2D
(number scored .....)

SECTION 2 E

		Yes	No
121.	Do you think that the boys and girls at school like you as well as they should?	✓	
122.	Do you think that the children would be happier if the teacher were not so strict?		✓
123.	Is it fun to do nice things for some of the other boys or girls?	✓	
124.	Is school work so hard that you are afraid you will fail?		✓
125.	Do your schoolmates seem to think that you are nice to them?	✓	
126.	Does it seem to you that some of the teachers "have it in for" pupils?		✓
127.	Do many of the children get along with the teacher much better than you do?		✓
128.	Would you like to stay home from school a lot if it were right to do so?		✓
129.	Are most of the boys and tirls at school so bad that you try to stay away from them?		✓
130.	Have you found that some of the teachers do not like to be with the boys and girls?		✓
131.	Do many of the other boys or girls claim that they play games more fairly than you do?		✓
132.	Are the boys and girls at school usually nice to you?	✓	

SECTION 2E
(number scored .....)

SECTION 2 F

		Yes	No
133.	Do you visit many of the interesting placesnear where you live?	✓	
134.	Do you think there are too few interesting places near your home?		✓
135.	Do you sometimes do things to make the place in which you live look nicer?	✓	
136.	Do you ever help clean up things near your home?	✓	
137.	Do you take good care of your own pets or help with other people's pets?	✓	
138.	Do you sometimes help other people?	✓	
139.	Do you try to get your friends to obey the laws?	✓	
140.	Do you help children keep away from places where they might get sick?	✓	
141.	Do you dislike many of the people who live near your home?		✓
142.	Is it all right to do what you please if the police are not around?		✓
143.	Does it make you glad to see the people living near you get along fine?	✓	
144.	Would you like to have things look better around your home?		✓

SECTION 2F
(number scored .....)

APPENDIX B

DEFINITIONS OF THE SUBTESTS OF THE CALIFORNIA TEST OF PERSONALITY

Definitions of the Subtests

The following subtests are considered to represent groupings of rather specific tendencies to feel, think, and act and are not names of general traits:

Personal Adjustment

1A. SELF-RELIANCE - An individual may be said to be self-reliant when his overt actions indicate that he can do things independently of others, depend upon himself in various situations, and direct his own activities. The self-reliant person is also characteristically stable emotionally, and responsible in his behavior.

1B. SENSE OF PERSONAL WORTH - An individual possesses a sense of being worthy when he feels he is well regarded by others, when he feels that others have faith in his future success, and when he believes that he has average or better than average ability. To feel worthy means to feel capable and reasonably attractive.

1C. SENSE OF PERSONAL FREEDOM - An individual enjoys a sense of freedom when he is permitted to have a reasonable share in the determination of his conduct and in setting the general policies that shall govern his life. Desirable freedom includes permission to choose one's own friends and to have at least a little spending money.

1D. FEELING OF BELONGING - An individual feels that he belongs when he enjoys the love of his family, the well-wishes of good friends and a cordial relationship with people in general. Such a person will as a rule get along well with his teachers or employers and usually feels proud of his school or place of business.

1E. WITHDRAWING TENDENCIES - The individual who is said to withdraw is the one who substitutes the joys of a fantasy world for actual successes in real life. Such a person is characteristically sensitive, lonely, and given to self-concern. Normal adjustment is characterized by reasonable freedom from these tendencies.

1F. NERVOUS SYMPTOMS - The individual who is classified as having nervous symptoms is the one who suffers from one or more of a variety of physical symptoms such as loss of appetite, frequent eye strain, inability to sleep, or a tendency to be chronically tired. People of this kind may be exhibiting physical expressions of emotional conflicts.

Social Adjustment

2A. SOCIAL STANDARDS - The individual who recognizes desirable social standards is the one who has come to understand the rights of others and who appreciates the necessity of subordinating certain desires to the needs of the group. Such an individual understands what is regarded as being right or wrong.

2B. SOCIAL SKILLS - An individual may be said to be socially skillful or effective when he shows a liking for people, when he inconveniences himself to be of assistance to them, and when he is diplomatic in his dealings with both friends and strangers. The socially skillful person subordinates his or her egoistic tendencies in favor of interest in the problems and activities of his associates.

2C. ANTI-SOCIAL TENDENCIES - An individual would normally be regarded as anti-social when he is given to bullying, frequent quarelling, disobedience, and destructiveness to property. The anti-social person is the one who endeavors to get his satisfactions in ways that are damaging and unfair to others. Normal adjustment is characterized by reasonable freedom for these tendencies.

2D. FAMILY RELATIONS - The individual who exhibits desirable family relationships is the one who feels that he is loved and well-treated at home, and who has a sense of security and self-respect in connection with the various members of his family. Superior family relations also include parental control that is neither too strict nor too lenient.

2E. SCHOOL RELATIONS - The student who is satisfactorily adjusted to his school is the one who feels that his teachers like him, who enjoys being with other students, and who finds the school work adapted to his level of interest and maturity. Good school relations involve the feeling on the part of the student that he counts for something in the life of the institution.

2F. COMMUNITY RELATIONS - The individual who may be said to be making good adjustments in his community is the one who mingles happily with his neighbours, who takes pride in community improvements, and who is tolerant in dealing with both strangers and foreigners. Satisfactory community relations include as well the disposition to be respectful of laws and of regulations pertaining to the general welfare.
(Thorpe et al., 1953, p. 3-4).

APPENDIX C

STATISTICAL TABLES

TABLE C-1

Summary of the Analysis of Variance for Scores on Subtest 1A--Self-Reliance

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	1.79	1	1.79	.69
Pre- and Posttest (B)	.29	1	.29	.64
A x B	1.14	1	1.14	.36
Within Cell	33.57	26	1.29	

$p<.05$

TABLE C-2

Summary of the Analysis of Variance for Scores on Subtest 1B--Sense of Personal Worth

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Groups (A)	7.15	1	7.15	1.22
Pre- and Posttest (B)	.29	1	.29	.14
A xB	7.14	1	7.14	3.34
Within Cell	55.57	26	2.14	

$p < .05$

TABLE C-3

Summary of the Analysis of Variance for Scores on Subtest 1C-- Sense of Personal Freedom

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Groups (A)	4.57	1	4.57	.88
Pre- and Posttest (B)	7.14	1	7.14	2.41
A x B	5.79	1	5.79	1.95
Within Cell	77.07	26	2.96	

$p<.05$

TABLE C-4

Summary of the Analysis of Variance for Scores on Subtest 1E--Withdrawing Tendencies

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Groups (A)	2.57	1	2.57	.21
Pre- and Posttest (B)	12.07	1	12.07	1.73
A x B	2.57	1	2.57	.36
Within Cell	184.36	26	7.09	

$p<.05$

TABLE C-5

Summary of the Analysis of Variance for Scores on Subtest 2C--Anti-Social Tendencies

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	9.45	1	9.45	1.36
Pre- and Posttest (B)	7.88	1	7.88	2.40
A x B	2.16	1	2.16	.66
Within Cell	85.47	26	3.29	

$p < .05$

TABLE C-6

Summary of the Analysis of Variance for Scores on Subtest 2D--Family Relations

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	4.57	1	4.57	.94
Pre- and Posttest (B)	1.78	1	1.78	.39
A x B	1.79	1	1.79	.39
Within Cell	118.43	26	4.56	

$p<.05$

TABLE C-7

Summary of the Analysis of Variance for Scores on Subtest 2E--School Relations

Source of Variation	Sum of Squares	d.f.	Mean Square	F
Exp. and Control Group (A)	.28	1	.28	.07
Pre- and Posttest (B)	.07	1	.07	.03
A x B	4.58	1	4.58	2.08
Within Cell	57.35	26	2.21	

$p<.05$